UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/938,145	08/23/2001	Keiichi Takahashi	6340-000020	1715

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PROCTOR, JASON SCOTT

ART UNIT	PAPER NUMBER
2123	6

DATE MAILED: 10/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/938,145	TAKAHASHI ET AL.
	Examiner	Art Unit
	Jason Proctor	2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-35</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-35</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>23 August 2001</u> is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-35 have been rejected.

Priority

1.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. A priority date of February 26, 2001 has been granted according to Japanese Patent application 2001-050401.

Drawings

2.   The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "solid model filled up with contents on the basis of said shape condition" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3.   The drawings are objected to because the weight of lines is not heavy enough to permit adequate reproduction. See 37 CFR § 1.84(l). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4.   The lead lines in Fig. 1 corresponding to references 1, 5, 17, and others and in
other figures are not heavy enough to permit adequate reproduction.

Specification

5.   35 U.S.C. § 112, first paragraph, requires the specification to be written in "full,
clear, concise; and exact terms:" The specification is replete with terms which are not
clear, concise and exact.   The specification should be revised carefully in order to
comply with 35 U.S.C. § 112, first paragraph.   Examples of some unclear, inexact or
verbose terms used in the specification are: "straight lines are first inputted and
combined each other to form a rough profile, and then intersecting points of those
straight lines are rounded or the like, thus forming a bottle-like profile" (page 28, lines 2-
5), "The solid model is used for a three-dimensional outer shape of the bottle, defined
as a substance filled up with contents" (page 28, lines 12-14), and "When it is good, it is
judged whether the secondary processing is to be performed further or not (S206),
when the secondary processing is not selected (NO of S206), it is determined whether a
bottle shape data (S105) stated later is to be outputted to the outside of the computer or
not (S207)" (page 29, lines 16-21).

6.   The specification is objected to as failing to provide proper antecedent basis for
the claimed subject matter.   See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).   Correction
of the following is required: The phrase "a solid model filled up with contents on the
basis of said shape condition" in claims 1, 10, 18, and 27 and has insufficient basis in
the disclosure. It is noted that the specification recites this phrase in numerous places,

however the specification does not make clear the precise meaning of the phrase nor

explain the concept with enough detail that a proper search of prior art can be

performed. See the rejection of claims 1, 10, 18, and 27 under 35 U.S.C. §112, second

paragraph below.

Claim Rejections - 35 USC § 101

7.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claims 18-35 are rejected under 35 U.S.C. § 101 because the claimed invention is

directed to non-statutory subject matter. Claims 18 and 27 are directed toward a

computer program per se and is therefore nonstatutory functional descriptive material.

See MPEP 2106 (IV)(B). The phrase "for carrying out by a computer" is insufficient to

establish that the subsequent limitations are components of a program executed by a

computer.

8.   To expedite a complete examination of the instant application the claims rejected

under 35 U.S.C. § 101 (nonstatutory) above are further rejected as set forth below in

anticipation of applicant amending these claims to place them within the four statutory

categories of invention.

Claim Rejections - 35 USC § 112

9.   The following is a quotation of the second paragraph of 35 U.S.C. § 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10.   The claims are generally narrative and indefinite, failing to conform with current U.S. practice.   They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

11.   For example, claims 8, 9, 16, 17, and others have grammatical errors.   Claim 10 contains the narrative transitional phrase "after that".

12.   Claims 1-35 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13.   Regarding claims 1, 10, 18, and 27, these claims recite limitations including the phrase "a solid model filled up with contents on the basis of said shape condition".   It is noted that Fig. 4 discloses that the parametric inputting means 15 includes means for the user to input the fill level of the bottle, the specific gravity of the contents, and the weight of the contents, the disclosure is silent as to what constitutes a solid model filled up with contents on the basis of said shape condition.   In light of shape condition input parameters such as the fill level of the bottle and the disclosure's silence regarding a solid model filled up with contents on the basis of said shape condition, the term "filled up" is indefinite.   It is unknown whether some measure of a solid model's capacity must be maximized in order to be filled up or if this term relates to some other condition such a maximum weight.   It is unknown whether a model that meets all other limitations but has a bottle filled with contents to half of its capacity would infringe on the limitations of these claims.   Appropriate correction is required.

14.   Regarding claims 3-5, 11-13, 20-22, and 29-31, these claims recite limitations including subjecting the solid model to a secondary processing by using a Boolean operation, a fillet operation, or a deformable operation. It is unclear from the language of these claims whether a Boolean operation, a fillet operation, or a deformable operation constitutes a secondary processing step or whether a Boolean operation, a fillet operation, or a deformable operation are used as a delivery mechanism which subjects the solid model to some other secondary processing step. It is unknown whether an invention which performs a Boolean operation, a fillet operation, or a deformable operation on a solid model would infringe the limitations of these claims. Appropriate correction is required.

15.   The term "smoothly rounded" in claims 4, 12, 21, and 30 is a relative term which renders the claim indefinite. The term "smoothly" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear what constitutes a smoothly rounded intersecting portion of two planes. If applicant intends "a smoothly rounded intersecting portion" to be interpreted as "a radius" (page 33, line 17 – page 34, line 2), it is unknown what measure should be used to determine whether a given radius is smoothly rounded. Appropriate correction is required.

16.   The term "continuous rugged shape" in claims 6, 14, 23, and 32 is a relative term which renders the claim indefinite. The term "rugged" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one

of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear what measure should be used to determine whether a given shape is rugged. Appropriate correction is required.

17.   Regarding claims 8, 9, 16, 17, 25, 26, 34, and 35, these claims recite limitations including the phrase "it is possible to", but do not make clear whether the subsequent step is an essential feature of the invention. Further, it is unknown how to determine whether it is possible for an invention of prior art to exhibit the recited features. Appropriate correction is required.

18.   Regarding claims 18 and 27, claim 18 recites the preamble "A container designing program for carrying out by a computer:". This terminology is vague and indefinite in that it supports more than one interpretation. One interpretation is "A container designing program which can be executed by a computer:", however this interpretation creates a claim which omits essential structural cooperative relationships of the elements. See MPEP §2172.01. A second interpretation is "A container designing program wherein a computer executes:", however this interpretation also is indefinite because it is unknown whether this is intended to be an inclusive or exclusive list of limitations. See MPEP §2111.03. Claim 27 similarly recites the preamble "A computer-accessible recording medium recording a container designing program for carrying out by a computer:" and is rejected based upon similar interpretations as those given for claim 18.

19.   Regarding claims 18 and 27, it is unknown whether the "parametric inputting means for inputting a parametrically defined shape condition" is a component of the

container designing program recited in the preamble or a hardware component of the computer. Similar arguments apply to "a storing means", "a solid defining means", and "a solid model editing means".

Claim Interpretation

20.   In the interest of compact prosecution, examiner makes the following claim interpretations in order to apply prior art to the claims.   See *Ex parte Ionescu*, 222 USPQ 537 (Bd. Pat. App. & Inter. 1984).

21.   Regarding claims 1, 10, 18, and 27, the disclosure provides no indication what constitutes "a solid model filled up with contents on the basis of said shape condition". There are no drawings showing this claimed limitation. Therefore examiner interprets this limitation as "a solid model".

22.   Regarding claims 3-5, 11-13, 20-22, and 29-31, the examiner interprets the limitations such that a Boolean operation, a fillet operation, or a deformable operation constitute secondary processing according to .

23.   Regarding claims 4, 12, 21, and 30, the limitations are interpreted as "wherein said solid model editing means subjects said solid model to a secondary processing comprising a fillet operation".

24.   Regarding claims 6, 14, 23, and 32, the limitations are interpreted as "wherein said solid model editing means subjects said model to a secondary processing comprising a spiral operation".

25.   Regarding claims 8, 9, 16, 17, 25, 26, 34, and 35, the limitations are interpreted

as though the recited steps are necessary and definitely carried out.

26.   Regarding claims 18 and 27, the preambles are interpreted as inclusive claim

language. The recited limitations of "a parametric inputting means", "a storing means",

"a solid model defining means", and "a solid model editing means" are interpreted as

components of the container designing program.

Claim Rejections - 35 USC § 102

27.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102

that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

28.   Claims 1-2, 4-6, 8, 10, 12-14, 16, 18-19, 21-23, 25, 27-28, 30-32, and 34 are

rejected under 35 U.S.C. § 102(e) as being anticipated by Lee et al, US PGPub No. US

20040085311 A1.

29.   Regarding claim 1, Lee et a. teaches a method and system for computer aided

design for designing a shape of a hollow container (paragraph 0002) comprising:

a parametric inputting means (paragraphs 0270-0271) for inputting a

parametrically defined shape condition (paragraphs 0036, 0100);

a storing means for storing said shape condition is inherent in that the invention

is embodied as a system for computer aided design (paragraph 0002);

a solid model defining means for defining a three-dimensional out shape of said

hollow container as a solid model filled up with contents on the basis of

said shape condition (paragraphs 0010, 0041, 0044); and

a solid model editing means for subjecting said solid model to a secondary

processing (paragraphs 0046, 0097, 0180, 0185, 0193, 0235).

30.   Regarding claim 2, Lee et al. teaches that the solid model is subjected to a

secondary processing after an outer shape of said hollow container is defined as a solid

model (paragraphs 0046, 0105, 235-236).

31.   Regarding claim 4, Lee et al. teaches that the solid model editing means subjects

said solid model to a secondary processing by using a fillet operation for smoothly

rounding an intersecting portion of one plane with the other plane (paragraphs 0417-

0418).

32.   Regarding claim 5, Lee et al. teaches that the solid model editing means subjects

said solid model to a secondary processing by using a deformable operation for altering

a plane such that a positive load or a negative load is applied to the plane (paragraph

0193; Fig. 9, 22, 23).

33.   Regarding claim 6, Lee et al. teaches that the solid model editing means subjects

said solid model to a secondary processing by using a spiral operation for generating a

continuous rugged shape on an exterior surface of said hollow container (paragraphs

0046, 0180; Fig. 24).

34.   Regarding claim 8, Lee et al. teaches that the solid model is subjected to secondary processing under the condition that a shape of a finished portion of said hollow container is fixed (paragraph 0046, 0096). Lee et al. teaches that geometric constraint criteria can be applied to geometric objects while applying deformation operations to other objects (paragraph 0046).

35.   Claims 10, 12-14, and 16 are directed toward a container designing method using a computer which recite limitations corresponding to the container designing system using a computer of claims 1, 4-6, and 8, respectively. As the invention of Lee et al. teaches a method for designing a container using a computer (paragraphs 0003, 0098), the limitations of claims 10, 12-14, and 16 are rejected for reasons corresponding to the rejections of claims 1, 4-6, and 8 given above.

36.   Claims 18-19, 21-23, and 25 are directed toward a container designing program for carrying out by a computer which recite limitations corresponding to the container designing system using a computer of claims 1-2, 4-6, and 8, respectively. As the invention of Lee et al. is a computer program for designing a container (paragraphs 0003, 0098), the limitations of claims 18-19, 21-23, and 25 are rejected for reasons corresponding to the rejections of claims 1-2, 4-6, and 8 given above.

37.   Claims 27-28, 30-32, and 34 are directed toward a computer-accessible recording medium recording a container designing program for carrying out by a computer which recite limitations corresponding to the container designing system using a computer of claims 1-2, 4-6, and 8, respectively. As the invention of Lee et al. is a computer program for designing a container (paragraphs 0003, 0098) and it is inherent

that a computer program is stored on a computer-accessible medium, the limitations of

claims 27-28, 30-32, and 34 are rejected for reasons corresponding to the rejections of

claims 1-2, 4-6, and 8 given above.

Claim Rejections - 35 USC § 103

38.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

39.   Claims 3, 11, 20, and 29 are rejected under 35 U.S.C. § 103(a) as being

unpatentable over Lee et al. as applied to claims 1-2, 4-6, 8, 10, 12-14, 16, 18-19, 21-

23, 25, 27-28, 30-32, and 34 above, and further in view of Subrahmanyam et al., US

Patent No. 6,654,654.

40.   Regarding claim 3, Lee et al. teaches that the solid model editing means subjects

said solid model to secondary processing by embedding one object model into another

object model, constituting a Boolean AND operation (paragraphs 0279, 0416). Lee et

al. does not specifically disclose using Boolean operators for said secondary

processing.

41.   Subrahmanyam et al. teaches a computer-implemented solid modeling system

(column 2, lines 14-28) wherein Rib and Web features are created by using a union,

subtraction, or intersection operation (column 4, lines 25-51). Union, subtraction, and

intersection operations are functionally equivalent to Boolean operations OR, XOR, and

AND respectively. It would have been obvious to a person of ordinary skill at the time of applicant's invention to include tools and methods known in the art of computer-implemented solid modeling to include tools performing Boolean operations in the invention of Lee et al. Such a combination would better facilitate the design of glass bottles, especially with regard to combining finely detailed portions of models developed independently as disclosed by Lee et al. (paragraph 0416). Such a combination could be achieved by including the Boolean operation tools in the user interface of the invention of Lee et al. (paragraph 0255), providing the same functionality as disclosed by Subrahmanyam et al.

42.   Claim 11 is directed toward a container designing method using a computer which recites limitations corresponding to the container designing system using a computer of claim 3. As the invention of Lee et al. teaches a method for designing a container using a computer (paragraphs 0003, 0098), the limitations of 11 are rejected for reasons corresponding to the rejections of claim 3 given above.

43.   Claim 20 is directed toward a container designing program for carrying out by a computer which recites limitations corresponding to the container designing system using a computer of claim 3. As the invention of Lee et al. is a computer program for designing a container (paragraphs 0003, 0098), the limitations of claim 20 are rejected for reasons corresponding to the rejections of claim 3 given above.

44.   Claim 29 is directed toward a computer-accessible recording medium recording a container designing program for carrying out by a computer which recites limitations corresponding to the container designing system using a computer of claim 3. As the

invention of Lee et al. is a computer program for designing a container (paragraphs 0003, 0098) and it is inherent that a computer program is stored on a computer-accessible medium, the limitations of claim 29 are rejected for reasons corresponding to the rejections of claim 3 given above.

45.   Claims 7 and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee et al. as applied to claim 1 above, and further in view of Smith et al., US Patent No. 5,864,777.

46.   Regarding claim 7, Lee et al. teaches a capacity modulating means for performing a shape modulation upon said outer shape in order that a container capacity after a shape modulation has a capacity determined by said shape condition (paragraph 0046). While Lee et al. teaches that geometric constructs may be constrained while the modeling system deforms other aspects of the model, it is not specifically disclosed that a shape modulation can be performed so that the final volume of the model matches a parametrically defined input.

47.   Smith et al. teaches a method of computer implemented modeling to predict the volume of combustion head chambers (column 1, lines 52-64). The invention receives a three dimensional model of the combustion chamber and calculates the volume (paragraph 5, lines 13-30). In the event that the calculated volume is not on target, the model is adjusted so that the calculated volume meets the predetermined target volume (column 5, line 52 – column 6, 2). Therefore, Smith et al. teaches a shape modulation technique that produces a container with a capacity determined by a previously known

condition. It would have been obvious to a person of ordinary skill in the art of computer implemented modeling at the time of applicant's invention to use techniques known in the art to manage the volume of a bottle being designed, especially when the volume of a bottle is a critical design feature. The combination of the volume adjusting feature of Smith et al. with the invention of Lee et al. could be achieved by including a volume adjusting tool in the user interface of the invention of Lee et al. (paragraph 0255); providing the same functional ability as taught by Smith et al.

48.   Regarding claim 9, Lee et al. teaches that the solid model is subjected to shape modulation upon said outer shape under the conditions that a shape of a finished portion of said hollow container is fixed (paragraph 0046, 0096). Lee et al. teaches that geometric constraint criteria can be applied to geometric objects while applying deformation operations to other objects.

49.   Claims 15 and 17 are directed toward a container designing method using a computer which recite limitations corresponding to the container designing system using a computer of claims 7 and 9, respectively. As the invention of Lee et al. teaches a method for designing a container using a computer (paragraphs 0003, 0098), the limitations of claims 15 and 17 are rejected for reasons corresponding to the rejections of claims 7 and 9 given above.

50.   Claims 24 and 26 are directed toward a container designing program for carrying out by a computer which recite limitations corresponding to the container designing system using a computer of claims 7 and 9, respectively. As the invention of Lee et al. is a computer program for designing a container (paragraphs 0003, 0098), the

limitations of claims 24 and 26 are rejected for reasons corresponding to the rejections

of claims 7 and 9 given above.

51.   Claims 33 and 35 are directed toward a computer-accessible recording medium

recording a container designing program for carrying out by a computer which recite

limitations corresponding to the container designing system using a computer of claims

7 and 9, respectively. As the invention of Lee et al. is a computer program for designing

a container (paragraphs 0003, 0098) and it is inherent that a computer program is

stored on a computer-accessible medium, the limitations of 33 and 35 are rejected for

reasons corresponding to the rejections of claims 7 and 9 given above.

Conclusion

Art considered pertinent by the examiner but not applied has been cited on form

PTO-892.

Nishimine et al. US Patent No. 6,304,794 teaches modeling and simulation of

bottles to meet design requirements. Iwamoto et al. US Patent No. 5,717,905 teaches

parametric curve fitting to design and model objects including containers. Bhargava et

al. US Patent No. 6,219,055 teaches a method of computer modeling and design.

Klein, US Patent No. 5,859,786 teaches computer-aided geometry modeling. Plotkin,

US Patent No. 6,788,984 teaches a method of computer-aided bottle design.

Christensen et al. US Patent No. 4,736,306 teaches solid modeling and Boolean

operations on solids. Cheng et al. US PGPub No. US 20030061014 A1 teaches

mathematical modeling of a bottle design. Shaikh, US Patent No. 6,120,171 teaches

solid modeling of a container by creating a cavity. Yamada, US Patent No. 5,253,336 teaches fitting a curve to points representing a figure.
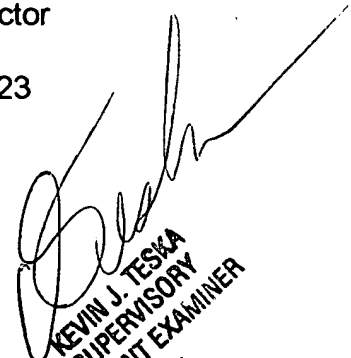
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Proctor whose telephone number is (703) 305-0542 or (571) 272-3713 beginning in October 2004. The examiner can normally be reached on 8am-4pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin J Teska can be reached on (703) 305-9704 or (571) 272-3716 beginning in October 2004. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason Proctor
Examiner
Art Unit 2123

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